AMENDMENTS TO THE CLAIMS

1. (Original) A thermal head printer with image-invariant printing speeds for printing a substantially light-insensitive thermographic material having a print density-driving power level characteristic, said thermal head printer comprising a transport means, one or more thermal heads each having an array of heating elements, a thermal print head drive system capable of supplying power to each of said printing elements, and a calibration means based on said print density-driving power level characteristic of said thermographic material.

2. (Currently Amended) The thermal ~~Thermal~~ head printer according to claim 1, wherein the maximum driving power applied to said thermographic material during said printing process is adjusted as a function of said print density-driving power level characteristic of said thermographic material.

3. (Currently Amended) A thermal head printer with image-invariant printing speeds for printing a substantially light-insensitive thermographic material having a print density-driving power level characteristic, said thermal head printer comprising a transport means, one or more thermal heads each having an array of heating elements, a thermal print head drive system capable of supplying power to each of said printing elements, and a calibration means based on said print density-driving power level characteristic of said thermographic material, ~~Thermal head printer according to claim 1,~~ wherein the driving power level in said print density-driving power level characteristic of said thermographic material is rendered dimensionless by normalization.

4. (Currently Amended) The thermal ~~Thermal~~ head printer according to claim 1, wherein said thermal head printer further comprises at least one densitometer capable of measuring the print density of a print produced with said thermal head printer.

5. (Currently Amended) The thermal ~~Thermal~~ head printer according to claim 1, wherein said thermal print head drive system is capable of being calibrated by using the dependence of print density upon power supply level for said substantially light-insensitive thermographic material.

6. (Original) A process for calibrating a thermal head printer with image-invariant printing speeds, said thermal head printer comprising one or more thermal heads each having an array of heating elements connected to a power supply capable of supplying a given number of heating element driving power levels from 0 to a maximum driving power level number, corresponding to P_{max}, to each heating element for printing a substantially light-insensitive thermographic material by image-wise heating said thermographic material with said heating elements, said process comprising the steps of:

(i) putting said printer into a calibration mode;

(ii) printing one or more step-wedges of print densities by heating said thermographic material with said heating elements at different DPLN's;

(iii) determining the optical density of each step of said step-wedge(s) of print densities with a densitometer thereby obtaining the dependence of said print density upon DPLN;

(iv) deriving from said dependence, or all said dependences of said print density upon DPLN, a single smoothed dependence of the rate of change of print density, D, with DPLN, $\Delta D/\Delta DPLN$, as a function of DPLN for said thermographic material;

(v) establishing a threshold rate of print density change per DPLN for the specific thermographic material being printed; and

(vi) setting up said thermal head printer so that said threshold rate of print density increase per DPLN cannot be undercut.

7. (Currently Amended) The process ~~Process~~ according to claim 6, wherein said one or more step wedges of print densities are printed simultaneously.

8. (Currently Amended) The process ~~Process~~ according to claim 6, wherein steps (i) to (iv) are repeated at different places on said thermographic material to obtain further dependencies of said print density upon said heat produced by said heating elements for said thermographic material.

9. (Currently Amended) A process for printing a substantially light-insensitive thermographic material with a thermal head printer with ~~image-variant~~ image-invariant printing speeds, said thermal head printer comprising one or more thermal heads each having an array of heating elements connected to a power supply capable of supplying a given number of heating element driving power levels from 0 to a maximum driving power level number, corresponding to P_{max}, said process comprising the steps of: calibrating said thermal head printer, transporting the substantially light-insensitive thermographic material past the thermal head, and image-wise heating of the substantially light-insensitive thermographic material by means of said heating elements, wherein said calibration comprises the steps of:

(i) putting said printer into a calibration mode;

(ii) printing one or more step-wedges of print densities by heating said thermographic material with said heating elements at different DPLN's;

(iii) determining the optical density of each step of said step-wedge(s) of print densities with a densitometer thereby obtaining the dependence of said print density upon DPLN;

(iv) deriving from said dependence, or all said dependences of said print density upon DPLN, a single smoothed dependence of the rate of change of print density, D, with DPLN, $\Delta D/\Delta DPLN$, as a function of DPLN for said thermographic material;

(v) establishing a threshold rate of print density change per DPLN for the specific thermographic material being printed; and[[;]]

(vi) setting up said thermal head printer so that said threshold rate of print density increase per DPLN cannot be undercut.

10. (New) The thermal head printer according to claim 3, wherein the maximum driving power applied to said thermographic material during said printing process is adjusted as a function of said print density-driving power level characteristic of said thermographic material.

11. (New) The thermal head printer according to claim 3, wherein said thermal head printer further comprises at least one densitometer capable of measuring the print density of a print produced with said thermal head printer.

12. (New) The thermal head printer according to claim 3, wherein said thermal print head drive system is capable of being calibrated by using the dependence of print density upon power supply level for said substantially light-insensitive thermographic material.

13. (New) A process for calibrating a thermal head printer with image-invariant printing speeds, said thermal head printer comprising one or more thermal heads each having an array of heating elements connected to a power supply capable of supplying a given number of heating element driving power levels from 0 to a maximum driving power level number, corresponding to P_{max}, to each heating element for printing a substantially light-insensitive thermographic material by image-wise heating said thermographic material with said heating elements, said process comprising the steps of:

(i) putting said printer into a calibration mode;

(ii) printing one or more step-wedges of print densities by heating said thermographic material with said heating elements at different DPLN's;

(iii) determining the optical density of each step of said step-wedge(s) of print densities with a densitometer thereby obtaining the dependence of said print density upon DPLN;

(iv) deriving from said dependence, or all said dependences of said print density upon DPLN, a single smoothed dependence of the rate of change of print density, D, with DPLN, $\Delta D/\Delta DPLN$, as a function of DPLN for said thermographic material;

(v) establishing a threshold rate of print density change per DPLN for the specific thermographic material being printed; and

(vi) setting up said thermal head printer so that said threshold rate of print density increase per DPLN cannot be undercut,

wherein the driving power level in said print density-driving power level characteristic of said thermographic material is rendered dimensionless by normalization.

14. (New) The